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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,645	07/28/2003	Kazuhiro Kagami	03500.017456	3604

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EXAMINER

LEE, HSIEN MING

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,645	KAGAMI ET AL.	
	Examiner	Art Unit	
	Hsien-Ming Lee	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In re claim 8, the term "1.0 % by weight or more and 20% by weight or less" renders indefinite because there is no upper limit as to "or more" and no lower limit as to "or less."

In re claim 11, it is unclear to the examiner whether the claim is to be treated as dependent from claim 1 or to be treated as an independent claim. If it is to be treated independent claim, the claim is incomplete for omitting essential method steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: forming electron-emitting devices and image forming member; and forming an electrode or wiring. By reciting "comprising forming at least one of an electrode and a wiring by the method according to claim 1" does not provide any essential method steps.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamaguchi et al. (US 5,631,753).

In re claim 1, Hamaguchi et al. teach the claimed method of forming an electrode and wiring, comprising:

- forming a base pattern on a substrate 13;
- absorbing an organic metallic compound into the base pattern, i.e. immersing the substrate in an aqueous solution of organic metallic compound (col. 6, lines 19-21 and col. 7, lines 37-65); and
- baking the base pattern which the organic metallic compound is absorbed, i.e. subjecting to a heat treatment to make a film 5 (col.6, lines 22-29); wherein the base pattern forming step includes: applying a photosensitive resin containing a water-soluble photosensitive resin component and a water-soluble metallic compound onto the substrate (col. 12, lines 18-41); and exposing the photosensitive resin to a light source (col. 11, lines 37-41).

In re claim 7, Hamaguchi et al. also teach a base pattern forming material for electrode and wiring comprising a water-based solution containing a water-soluble photosensitive resin component and a water-soluble metallic compound, as stated above.

In re claim 11, Hamaguchi et al. also teach the claimed method of manufacturing an image forming apparatus (i.e. black matrix), comprising forming at least an electrode, such as an electrode 116 or 117 or 113 (Fig.9), by the method according to claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 7 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Furuse et al. (US 6,586,155, submitted by applicants).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

In re claims 1, 7 and 11, Furuse et al. teach the claimed of forming an electrode and wiring (col. 7, lines 43-46), and manufacturing an image-forming apparatus including a plurality of electron-emitting devices and an image-forming member (col. 5, lines 44-67), comprising:

- forming a base pattern A/B on a substrate 1 (Fig. 1);
- absorbing an organic metallic compound (i.e. the water-soluble organometallic compound capable of forming an electroconductive film) into the base pattern (col. 3, lines 29-62); and

- baking the base pattern which the organic metallic compound is absorbed (col.5, lines 21-28); wherein the base pattern forming step includes: applying by coating a photosensitive resin containing a water-soluble photosensitive resin component (col. 3, lines 18-22) and a water-soluble metallic compound (col. 3, lines 60-62) onto the substrate (col. 3, lines 18-28, col. 4, lines 8-23); and exposing the photosensitive resin to a light source (col. 4, lines 49-65).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fursue et al. (US 6,586,155).

In re claims 2 and 8, Fursue et al. do not expressly teach that a compounding ratio of the water-soluble metallic compound to the photosensitive resin component is 1.0 % by weight to 20 % by weight.

However, Fursue et al. do suggest that the ratio is a consideration of increasing drying speed (col. 3, line 63 through col. 4, line 7).

Therefore, one of the ordinary skill in the art, at the time the invention was made, would have been motivated to optimize the ratio to increase the drying and/or baking speed, since the ratio variation is obvious to the ordinary in the art for optimizing the subsequent processing step.

In re claims 3 and 9, Fursue et al. also teach that the water-soluble metallic compound is a water-soluble metallic compound including rhodium, bismuth, ruthenium, vanadium, chromium, tin, lead, or silicon (col. 3, lines 60-62).

In re claims 4-5, Fursue et al. also teach that the organic metallic compound is a complex and a ligand thereof is a nitrogen-containing compound and the nitrogen-containing compound is a nitrogen-containing compound having at most 8 carbon atoms (col. 3, lines 36-46).

In re claim 6, Fursue et al. also teach that the organic metallic compound is a platinum complex (col. 6, lines 19-22).

In re claim 10, Fursue et al. also teach that the water-soluble photosensitive resin component is one of a polyvinyl alcohol-based resin and a polyvinyl pyrrolidone-based resin (col. 3, lines 18-22).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-Ming Lee whose telephone number is 571-272-1863. The examiner can normally be reached on M-F (9:00 ~ 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Hsien-Ming Lee
Examiner
Art Unit 2823

March 5, 2004

A handwritten signature in black ink, appearing to read 'Lee', with a long horizontal stroke extending to the right.